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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,406	11/21/2003	Keiyu Kin	13425.45US01	3338

7590

01/24/2006

HAMRE, SCHUMANN, MUELLER & LARSON, P.C.  
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EXAMINER
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ARTHUR JEANGLAUDE, GERTRUDE

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/719,406	<b>Applicant(s)</b> KIN, KEIYU	
	<b>Examiner</b> Gertrude Arthur-Jeanglaude	<b>Art Unit</b> 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-4 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All    b) ☐ Some \* c) ☐ None of:  
     1. ☒ Certified copies of the priority documents have been received.  
     2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata et al. (U.S. Patent No. 5,481,455) in view of Kin et al. (U.S. Patent No. 5,493,893).

As to claim 1, Iwata et al. disclose a hydroplaning detection apparatus for a vehicle comprising as shown in Fig. 1A wheel speed sensors 1,-4 (See col. 3, lines 1-15) for detecting vibrations from a road surface through tires, the wheel speed sensors being provided at front and rear wheel sides respectively (see col. 3, lines 1-15); it discloses an input section through which the wheel speed sensors input their detection values (See col. 3, lines 1-3); and a processing unit (ECU) for processing the detection values to determine hydroplaning, wherein the processing unit comprises: a digital filter to extract a change pattern of the detection values for the respective front and rear wheel sides by excluding inherent tire influences on the detection values due to lack of tire uniformity has a long period relative to a shorter waveform representing speed variations due to road bump (See col. 10, lines 10-66) wherein a road condition can be a slope or a road bump; Iwata et al. discloses means for executing pattern matching (via wheel speed comparing means as shown in Fig. 1E) between the front and rear wheel

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sides of the extracted change patterns of the detection values; Iwata et al. also discloses means for obtaining a time difference from a coincidence of the change patterns; (See col. 14, lines 63-67-col. 15, lines 1-5); Iwata et al. fail to specifically disclose means for calculating a first vehicle speed based on the time difference and a reference distance that is previously stored in the hydroplaning detection apparatus; means for calculating a second vehicle speed based on an average value of wheel speeds detected by the wheel speed sensor that is provided at the rear wheel side; and means for determining that hydroplaning has occurred if a deviation between the first and the second vehicle is greater than a certain value. In an analogous art, Kin et al. discloses means for calculating a first vehicle speed based on the time difference and a reference distance that is previously stored in the hydroplaning detection apparatus; means for calculating a second vehicle speed based on an average value of wheel speeds detected by the wheel speed sensor that is provided at the rear wheel side; and means for determining that hydroplaning has occurred if a deviation between the first and the second vehicle is greater than a certain value (See col. 2, lines 23-51; Fig.4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Iwata et al. with that of Kin et al. by having a calculating means for calculating a second vehicle speed based on an average value of wheel speeds detected by the wheel speed sensor that is provided at the rear wheel side; and means for determining that hydroplaning has occurred if a deviation between the first and the second vehicle is greater than a certain value in order to correct the frequency band of the filter and the reference value based on a running condition on a dry road.

As to claim 2, Iwata et al. disclose all but fail to specifically disclose the processing unit determines that hydroplaning has occurred if the deviation exceeds the certain value for a certain period of time. In an analogous art, Kin et al. disclose the processing unit determines that hydroplaning has occurred if the deviation exceeds the certain value for a certain period of time (See Fig. 3A, 3B, 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Iwata et al. with that of Kin et al. by processing unit determines that hydroplaning has occurred if the deviation exceeds the certain value for a certain period of time in order to correct the frequency band of the filter and the reference value based on a running condition on a dry road.

As to claims 3-4, Iwata et al. disclose the reference distance is a wheel base of the vehicle (See Figs. 1F, 13).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kin et al. (U.S. Patent No. 5,532,678) disclose a hydroplaning detector apparatus.

Kin et al. (U.S. Patent No. 5,424,174) disclose a hydroplaning detecting system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gertrude Arthur-Jeanglaude whose telephone number is (571) 272-6954. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GAJ

*GAJ*

January 13, 2006

*Gertrude A. Jeanglaude*  
GERTRUDE A. JEANGLAUE  
PRIMARY EXAMINER